

# EXPRESSIONS

## CHEAT SHEET - B

Name \_\_\_\_\_  
Date \_\_\_\_\_ Pd \_\_\_\_\_

### PROPERTIES OF OPERATIONS

#### PROPERTIES OF OPERATIONS RESULT IN EQUIVALENT EXPRESSIONS

ORIGINAL EXPRESSION	PROPERTY	EQUIVALENT EXPRESSION
$8 + 0$	IDENTITY	$8$
$6 \cdot 3 \cdot 2$	COMMUTATIVE	$3 \cdot 2 \cdot 6$
$6 + (3 + 2)$	ASSOCIATIVE	$(6 + 3) + 2$
$8(x + 7)$	DISTRIBUTIVE	$8x + 56$

The RECIPROCAL of a number results in a product of 1.

$$\frac{5}{6} \cdot \frac{6}{5} = \frac{30}{30} = 1$$

### VOCABULARY

$$4x + 7^2 + 10$$

TERM  $4x, 7^2, 10$

VARIABLE  $x$

COEFFICIENT  $4$

EXPONENT  $2$

CONSTANT  $7^2, 10$

OPERATION  $+, \cdot$

#### EXPRESSION

#### EQUATION

the difference between a number and 12

$$x - 12$$

$$4 + 13$$

the difference between a number and 12 is 9

$$x - 12 = 9$$

$$4 + 13 = 17$$

### ORDER OF OPERATIONS

PEMDAS

EXAMPLE 1:

$$6^2 - 9 \div 3 \cdot 4$$

$$36 - 9 \div 3 \cdot 4$$

$$36 - 3 \cdot 4$$

$$36 - 12$$

$$24$$

EXAMPLE 2:

$$14 + 6(8 \div 2) - 5$$

$$14 + 6 \cdot 4 - 5$$

$$14 + 24 - 5$$

$$38 - 5$$

$$33$$

### expressions